



# SURGICAL EQUIPMENT

SEPTEMBER, 1949

*A quarterly chronicle of progressive development*

PENETRATING  
*Illumination*  
FOR SURGERY

SEE PAGE 15  
THIS ISSUE



MODERN surgical techniques require illumination that penetrates into deep and difficult cavities. These requirements are splendidly met by Scanlan-Morris Operay surgical lights. The Operay *Multibeam* is noted for its soft, white, glareless, shadow-free illumination, and the ease with which it permits projection of an intense light beam free from prismatic effects, at any desired angle over the entire length of the operating table. Highly effective, too, are the Operay *Surg-O-Ray* lights, both ceiling-hung and portable types . . . All Scanlan-Morris operating lights are available in standard or explosion-proof models . . . The 28-page catalog, "Scanlan-Morris Operay Surgical Lights," gives complete details and installation diagrams—mailed on request. For immediate detailed information, call our nearest branch sales office.

Scanlan-Morris Explosion Proof Operay light (illustrated) meets the standards of the Underwriters Laboratories for use in Class I Group C Hazardous locations.

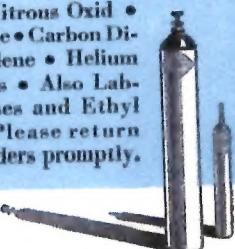
**OHIO HOSPITAL EQUIPMENT**

Heidbrink Anesthesia Apparatus  
Ohio-Heidbrink Oxygen Therapy Apparatus • Kreiselman Resuscitators • Scanlan-Morris Sterilizers • Ohio Scanlan Surgical Tables  
Operay Surgical Lights • Scanlan Surgical Sutures • Steril-Brite Furniture • Recessed Cabinets • U.S. Distributor of Stille Instruments.

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# NEWS ITEMS

From the

Manufacturers

## OHIO CHEMICAL FORMS PACIFIC CO.

In view of the increasing importance of our business on the Pacific Coast, and in order to better serve our customers' needs for our products in that area, the Ohio Chemical Pacific Company has been organized and has taken over, effective July 1, 1949, the business formerly conducted by The Ohio Chemical & Mfg. Co. in the states of Washington, Oregon, California, Idaho, Montana, Utah, Nevada, and Arizona.



H. P. Etter



J. H. Williams

H. P. Etter, President of Air Reduction Pacific Company, a subsidiary of Air Reduction Company, Inc., has received the added assignment of President of Ohio Chemical Pacific Company, and John H. Williams, formerly Regional Sales Manager of Ohio Chemical on the West Coast has been appointed Vice President. General offices and Medical Gas plants are located at 1379 Folsom Street, San Francisco, with branch sales offices in Los Angeles, Seattle and Portland.

## NEW OHIO CHEMICAL GAS SALES VICE-PRESIDENT



W. A. Lunger

G. J. Dekker, President of The Ohio Chemical & Mfg. Co., has announced that effective September 1, 1949, Mr. William A. Lunger, formerly Assistant Regional Sales Manager in New York, becomes Vice President in charge of Gas Sales with headquarters at the Ohio Chemical general office in Madison, Wisconsin.

## OHIO CHEMICAL ANNOUNCES DRAG CHAIN FOR GAS MACHINES.

Still another step forward in the direction of additional protection from static electricity in the operating room is being provided in connection with gas anesthesia machines. Ohio Chemical now is supplying with all its Heidbrink Kinetometer gas machines a drag chain consisting of electrical resistors fastened to each end of a medium size ball chain, a device which is effective only if the chain, properly attached to the gas machine, is in contact with the operating room floor and if the floor is conductive and grounded.

The device consists of two electrical resistors of about two and one-half million ohms resistance fastened each to one end of a piece of medium-sized ball chain. The unattached ends of the resistors are equipped with loops through which screws may be inserted to attach the assembly to the case of a gas machine.

The attachment is accomplished by two 8-32 self-tapping screws which are supplied in the envelope. The holes for these screws are drilled in the base of the gas machine.

The drag chain does not prevent the accumulation of static charges with respect to anything but ground or any object in electrical contact with the ground; i.e., having the same potential as ground, and it therefore does not offer any excuse for the relaxation of all precautions with respect to the accumulation of static electricity.

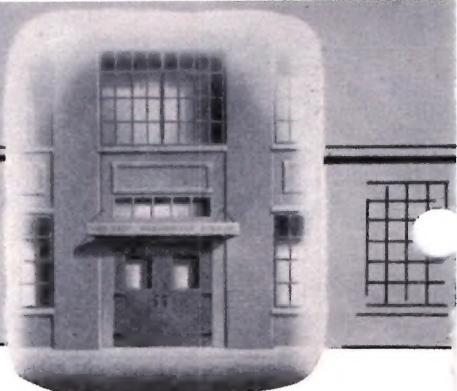
## NEW 4-OZ. INDIVIDUAL BEDSIDE DISPENSER AVAILABLE TO HOSPITAL.

Huntington Laboratories, Inc., has announced the new Sana-Bath Bedside Dispenser,

a four ounce soap dispenser designed to provide an individual, low cost, sanitary soap supply for each hospital patient.

The Sana-Bath Dispenser was designed specifically to make possible a more sanitary, efficient, and convenient bedside bathing routine. This new dispenser is small, easily portable and can be held and operated with only one hand. It may be stored in the patient's bedside cabinet or conveniently placed on the nurse's tray.

The Sana-Bath Dispenser saves soap which is normally wasted when bar soap is used. Each stroke of the dis-



penser releases a few drops of soap. Just enough is used for each bath. None is wasted. Liquid Soap is completely enclosed and protected from contamination. This is an inexpensive means of providing a small, personal, sanitary supply of soap for each patient.

The Sana-Bath Dispenser is designed for use with either Sana-Bath Bedside Bathing Soap, a mild vegetable oil soap, or Baby-San, America's Favorite Baby Soap, made from genuine imported castillian olive oils.

The new dispenser is so small, compact, and economical that it is possible to have individual dispensers for each infant in the nursery. The entire dispenser can be conveniently sterilized when such procedure is believed necessary.

The Sana-Bath Bedside Dispenser, aside from its readily recognizable advantages in sanitation, will result in savings of both time and soap. The cost of bathing patients will be considerably reduced and nurses will have more time to devote to other duties.

Sana-Bath dispensers are now available to hospitals everywhere. They are loaned without charge to the users of Huntington's Sana-Bath or Baby-San liquid soaps or the dispensers may be purchased outright. For more information, write Hospital Division, Huntington Laboratories, Inc., Huntington, Indiana.

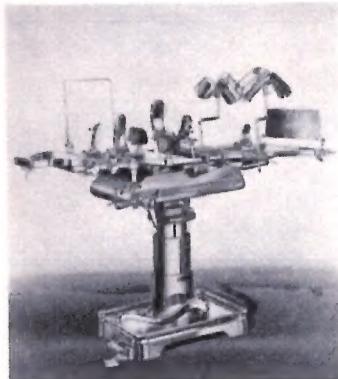
#### **WHAT PRICE OPERATING TABLE?** What kind of operating table should a hospital buy — one that

is semi-automatic and readily positionable for any type of major or minor surgery, or one that lacks some of the labor-saving features that are available?

Obviously, the answer depends on several factors, the most potent of which, in many cases, is PRICE. While the well-financed hospital can afford the finest and most efficient operating tables with hydraulic elevating and semi-automatic positioning features, some hospitals find it necessary to limit their purchases to lower-priced equipment.

Much has been said about the superior features of the new Ohio-Scanlan Model A-6000 Major Operating Table which already is widely regarded as one of the most satisfactory operating tables ever built. Back of it is some forty years' experience in engineering and constructing operating tables — experience which facilitates the production also of excellent tables of simpler construction.

The A-6000 Ohio-Scanlan table, with the Selectrol Positioner, makes possible the selection and control of all postures from the right-hand front end of the table — by locating on a dial the name of the desired position and turning the control hand crank until the position is attained.



- **IN THIS ISSUE** — don't miss — the splendid article on "INTUBATION ANESTHESIA" by Dr. George J. Thomas, beginning on page 5 . . . A special announcement on Scanlan-Morris needles for surgery, page 11 . . . Four pages of information on Scanlan-Morris Monel Sterilizers beginning on page 19 . . . Helpful informative data on medical gases and cylinders, of interest to all who are interested in the fields of anesthesia, therapy and resuscitation where gases are employed, see pages 12, 13, 14 . . . Timely pertinent facts about surgical lights with charts and pictures, see pages 15 to 18 . . . A listing of current Ohio literature available free of charge, see page 10 . . . The Ohio "Line Outlet Valve" for oxygen piping systems fully illustrated and described on page 23 . . . Two splendid articles by Richard L. Evans on pages 6 and 25 . . . Convenient postage free post cards on the back cover will obtain for you more information on any of the subjects in this issue. Simply sign your name and address and drop in the mail. We hope you like this issue . . . **The Editor.**

The table has an exceptionally wide range of elevation: over 16 inches — table top may be placed at any point between 29 $\frac{1}{2}$ " and 46" above the floor, by means of an efficient hydraulic pump enclosed in the double telescoping pedestal, operated by foot lever that is within convenient reach of the anesthetist. This pump also operates the leg section of the table.

The rectangular cast iron base of the table, covered with stainless steel, rests rigidly on the floor and not on brakes or floor shoes, thus providing positive rigidity of the table in all positions. When it is desired to move the table, a lever at the head end of the base lowers the concealed double-roller casters and lifts the table base off the floor for easy mobility.

Positions easily secured include: Trendelenburg and extreme Trendelenburg, chair position, cystoscopic and gynecic, reverse Trendelenburg, lateral tilt (as far as 15°) to right or left; body elevator in center of table completely adjustable from head end of table. Removable headrest, attached to side rails of back section, allows head of patient to rest in comfortable natural position, is quickly adjustable for any desired type of head or throat work, and may be removed from table to accommodate brain surgery or other special attachments.

A practically designed stainless steel drain pan for use in irrigation is available, at extra cost.

For complete description of the A-6000 table, ask for Form 1674-Rev.

**"PRE-WAR" QUALITY INHALER TUBINGS AGAIN AVAILABLE.** Ohio Chemical now is again supplying green anode corrugated inhaler tubings. The quality of this grade of tubing is generally regarded as superior to the black tubing that was supplied during the last several years.

**"STERILJAR" SUTURES ARE TIME-SAVERS.** Scanlan Sutures packed in clear-glass "Steriljars" with screw top have already proved to be a great convenience in many operating rooms. The Steriljar eliminates costly hours of handling and sterilizing in preparation for surgery. It serves as a germicidal container for the sutures right in the operating room—keeps them always sterile, always visible and always ready for use. It is estimated that by eliminating the work of scrubbing and sterilizing the tubes, the hospital saves eight hours per week per hundred beds. All Scanlan Su-



tures except Obstetrical and Goiter sutures are available in the Steriljar, and the cost is no more than boxed sutures per dozen.

#### TREATMENT OF TINEA WITH ETHYL CHLORIDE.

"Ohio" Ethyl Chloride in its new convenient bottle is now available. Ethyl Chloride is effective and convenient for many anesthetic uses.

An article on the treatment of lesions of the tinea group by the Medical Corps of the Army of the United States crediting Ethyl Chloride with giving "uniformly excellent results" was published in the November, 1943, issue of Archives of Dermatology and Syphology. In that article,

titled, "Treatment of Tinea with Ethyl Chloride," the author, Nathan Bograd, M.D., says: "Any tinea lesion, regardless of where it appears and whether it is acute or chronic, may be treated with Ethyl Chloride."

Copies of the article, reprinted with the permission of The American Medical Association and the author, is available without cost from the Ohio Chemical Library of Reprints. Requests should be addressed to the Advertising Dept., 1902 E. Johnson St., Madison, Wisconsin. Ask for rep't No. 247.

#### Ohio Chemical Convention Schedule

##### Convention and Date

##### AERO MEDICAL ASSOCIATION

Hotel Statler, New York, New York

August 29-September 1 Booth 3

"Ohio" Personnel Attending — R. H. McElrath, J. G. Sholes, Jr.

##### AMERICAN HOSPITAL ASSOCIATION

Auditorium, Cleveland, Ohio

September 26-29 Booths 309-311-313

"Ohio" Personnel Attending — G. J. Dekker, G. B. Close, W. A. Lunger, T. J. Rudesill, T. H. Ricketts, C. A. Simpler, Wm. Herzog, C. R. J. Kellam.

##### 24th ANNUAL CONGRESS OF ANESTHETISTS

Congress Hotel, Chicago, Illinois

October 3-6 Booth 16

"Ohio" Personnel Attending — Earl Clark, C. A. Simpler.

##### AMERICAN COLLEGE OF SURGEONS

October 17-21 Booth 4

Stevens Hotel, Chicago, Illinois

"Ohio" Personnel Attending — G. J. Dekker, L. L. Lunenschloss,

W. A. Lunger, R. H. McElrath, T. J. Rudesill, T. H. Ricketts, C. A. Simpler, L. E. Guentz, Wm. Herzog, E. H. Clark.

##### NATIONAL CHEMICAL EXPOSITION

Grand Central Palace, New York, New York

November 28-December 3 Booth 216

"Ohio" Personnel Attending — J. G. Sholes, Jr., M. E. Side, T. Olson

##### AMERICAN SOCIETY OF ANESTHESIOLOGISTS

Hotel New Yorker, New York, New York

December 7-10

"Ohio" Personnel Attending — G. B. Close, R. H. McElrath, C. S. Brown, M. E. Side.

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# Technic For Intubation Anesthesia

*with*

## Detailed Illustrations

By GEORGE J. THOMAS, M.D.<sup>1</sup>

### TERMINOLOGY

The terms "Endotracheal" and "Intratracheal" are synonymous and refer to the administration of anesthetic vapors directly into the trachea through a tube which has been passed through the larynx from either the mouth or nose.

"Endotracheal" is a Greek word meaning at the end or inside of the trachea. "Intratracheal" is Latin in origin meaning within the trachea.

Intubation of the trachea may be performed either through the mouth or through the nose. Therefore, it seems more accurate to describe such procedures as "Orotracheal" for the technic of intubating the trachea via the mouth, and "Nasotracheal" for the technic of intubating a trachea via the nose.

"Blind" intubation refers to the method of intubating a patient without the use of a laryngoscope.

"Direct" vision intubation refers to the insertion of a tube into the trachea under a direct vision and with the aid of a laryngoscope. The blind and direct vision intubation methods can be employed in oro- and nasotracheal technic.

### GENERAL CONSIDERATION

Intubation anesthesia has a wide range of usefulness and a definite place in surgery and in anesthesiology. Simplifying the anesthetic technic will often simplify even a very complicated operation. Many anesthetists hesitate to adopt intubation anesthesia because of the laryngoscopy technic involved. However, once intubation has been performed, the margin of safety to the patient is greatly increased.

### HISTORY

It is well established that A. Vesalius in 1542 passed a reed into the trachea of an animal and blew into it intermittently, and found that this caused the lungs to expand and the heart to recover its normal pulsation.

On October 24, 1667, Robert Hook performed a similar experiment before the Royal Society of London.

John Snow, before 1857, apparently was the first to employ intubation anesthesia in animals. Literature reveals that Friedrich Trendelenburg was the first to use this method in man in 1869. However, Trendelenburg performed a preliminary tracheotomy then passed a wide-bore tube, with an inflatable cuff, into the trachea.

Credit goes to William MacEwen of Glasgow, who in 1880, found it possible, without resorting to a tracheotomy, to perform intubation anesthesia by inserting a metal tube into the trachea by way of the mouth.

Development of intubation technic improved with the opportunities given by World Wars I and II. During these periods, chest, facial and jaw injuries required

special reconstruction surgery. Hence, a special technic in anesthesia was necessary which resulted in the further development of intubation anesthesia. The advantages in this form of anesthesia became widely recognized and its use rapidly extended to other surgical fields.

### ADVANTAGES AND DISADVANTAGES OF INTUBATION ANESTHESIA

#### ADVANTAGES —

- (1) Perfect ventilation.
- (2) Absence of respiratory obstruction. Respiration being under control and unhampered.
- (3) There is no tax on the respiratory mechanism.
- (4) Consistent light and even anesthesia.
- (5) Breathing is quiet; abdomen more relaxed than in any other form of anesthesia.
- (6) Intratracheal anesthesia makes artificial respiration possible. Therefore, it is wise to use it in cases where respiratory failure may occur, such as in basal brain operations, also operations upon the heart and pericardium.
- (7) The protection of patients against the entry of blood, mucus, and other materials into the tracheo-bronchial tree.
- (8) Tracheal and bronchial aspirations can be performed in thoracic operations without interference with anesthesia.
- (9) The operative field is free of the anesthetist and his paraphernalia.
- (10) Intrapulmonic pressure control when pleural cavity is opened.

#### DISADVANTAGES —

- (1) Since instrumentation is required, there is danger of trauma to the teeth, lips, soft palate, epiglottis, vocal cords, and other tissues in that region. This can be avoided by the development of skill in intubation.
- (2) The presence of intratracheal tube in the mouth may encroach on the surgical field in pharyngeal operations.
- (3) Danger of trauma to cords and other tissues in that region during extubation. This can be avoided by giving more anesthetic before extubation, or when any signs of resistance are noticed during removal of the tube.

<sup>1</sup>Head of the Department of Anesthesiology at the University of Pittsburgh School of Medicine, St. Francis and the University Group Hospitals, Pittsburgh, Pa.

(Continued on Page 26)

# "Don't be too Smart!"

By Richard L. Evans

Literally, it is possible to be so smart that we outsmart ourselves — and it is being done all the time.

Some people outsmart themselves in "telling others off."

"I told him where to head in!"

"I put him in his place!"

"You should have seen that fellow when I said . . ." etc., etc.

People can be right, and still be "too smart." They can be right in what they say, but wrong in how they say it — right as to facts, but wrong as to attitude.

Some people outsmart themselves with sarcasm. Sarcasm is a luxury — a costly luxury — that no one can really afford. It is a poison in personal relationships. It is a blight on friendship. It is a canker among men who work together, and a killer of finer feelings in families.

Sarcasm may be amusing to a bystander, and perhaps the person who uses it feels a certain smug satisfaction in cutting others down. But what it costs him in good will, in friendship, in kindly feeling — and in future favors — he perhaps could never calculate.

Practical jokes are in this category also. They sometimes seem very funny — funny to the perpetrators and to the spectators, but not to the victim. Even when he laughs he likely doesn't feel like laughing. Even when he is "a good sport" he likely feels some inward resentment.

The person who has a penchant for playing practical jokes also has a great gift for losing the good will of his fellow men.

There are also those who outsmart themselves in business — those who insist on just that extra slice that should belong to someone else — who keep the transaction from being profitable to all parties.

On this point, the late Henry Ford wrote: "We now know that anything which is economically right is also morally right. There can be no conflict between good economics and good morals."

Salesmen oftentimes outsmart themselves. They sometimes put on pressure to move an inferior product, or they misrepresent merchandise. But when they do, it costs them the confidence of their customers — and a selling career can't continue without the confidence of customers.

There are those who outsmart themselves in "shady" deals. They have it all figured out ahead of time. They know someone who knows someone who has given them the "dope." And "dope" isn't a bad word for some of the information they get. They are sure they have all the answers — but somehow they only get part of the answer. And the part they don't get is very important.

Many "smart" people have spent part of their lives behind bars. In their smartness they have cut too close to the unsafe side. The right way was too slow — but they found that the wrong way is much slower.

There are also those who outsmart themselves in sports. It is wonderful to win, of course; but a person who always presses others to the last limit, a person who is determined to win at any price, may pay too big a price.

Also, there are people who just have to rub it in — who don't seem to be able to pass up a sore spot —

"Well, I see you smashed your fender."

"How'd ya' get the black eye?"

"Well, I see you lost the election."

We all know the type. Some people seem to be drawn to sore spots like insects to a picnic.

But we are all vulnerable. We are all sensitive about some things. All of us are open to counterattack. Bread cast upon the waters returns. And any man who insists on "rubbing it in" will find, sooner or later, that he is outsmarting himself.

Not long ago I heard of a fine old-fashioned father — a sturdy Scot — who reared his family with firm kindness. Among them was one alert and lovely girl who was about to be married. Priscilla was her name. She had a keen mind. She had learned to hold her own in the give and take of family life among four robust brothers. She knew what she thought — and she didn't hesitate to speak up and express herself.

Shortly before she was to leave to make her home with her husband, her father gave her his final piece of profound advice in a short sermon of five words: "Prissie, don't be too smart."

Many a man has said much less in a much longer sermon.

"Don't be too smart!"



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WHEN short periods of anesthesia are involved, and it is desirable to have the patient ambulatory shortly thereafter, the use of the inhalation anesthetic agent Vinethene is recommended.

Vinethene anesthesia is rapidly induced and affords prompt, quiet, and smooth recovery. Nausea and vomiting are rarely encountered.

Vinethene anesthesia is especially useful as an aid to the reduction of fractures, manipulation of joints, dilatation and curettage, myringotomy, changing of painful dressings,

incision and drainage of abscesses, tonsillectomy, and extraction of teeth.

Vinethene also may be employed as an induction agent prior to the administration of ethyl ether and as a complement to nitrous oxide-oxygen anesthesia.

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*Ohio Chemical*

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# Use this helpful "Ohio" literature

A few of the most recent items of "Ohio" literature are herein described as a reminder. Look over this list and use the reply card on the back cover of this issue for ordering items you require.

Form No. 243 Library Service Booklet. Lists available reprints of articles on analgesia, anesthesia, medical gases, oxygen therapy, resuscitation and related topics.

Form No. 555A Scanlan Suture Price List. Surgical sutures including convenient needle sutures for gastro-intestinal surgery, obstetrics, skin and plastic surgery, etc., are illustrated in actual size. Sutures available in the new Sterilite are also listed.

Form No. 557 Ohio Oxygen Administering Apparatus. A 12-page illustrated catalog covering the Ohio line of oxygen therapy equipment, including Heidbrink oxygen tents, B-L-B face masks, oropharyngeal catheters, Kreiselman resuscitators, Hess incubators, Aerosol penicillin outfits and portable oxygen units.

Form No. 2040 Ohio Medical Gases. A 4-page catalog on Ohio Medical Gases and their physical properties.

Form No. 970 Scanlan-Morris Headrests. A catalog sheet illustrating the ganglion and cerebellum headrests.

Form No. 1032 "No Smoking" Sign. A 6 x 9" placard for hanging in operating rooms where inflammable anesthetics are used. Reverse side gives suggested operating room precautions.

Form No. 1035 Central Oxygen Piping System. An 8-page catalog with illustrations and plans of a typical hospital central oxygen piping system layout. Engineering service is available to all hospitals, contractors and hospital architects for planning oxygen installation.

Form No. 1040 "Empty" Stickers. A booklet of 60 perforated gummed labels to use when cylinders are empty.

Form No. 1069 Scanlan-Morris Sterilite Surgical Furniture. A 24-page illustrated catalog covering Sterilite hospital furniture.

Form No. 1087 Cylinder Record Book. A 20-page booklet of pages with ruled forms for recording gas cylinders received and returned.

Form No. 1166 Heidbrink Surgical Anesthesia Apparatus. A 32-page catalog illustrating and describing the extensive line of Heidbrink apparatus for the administration of anesthetic gases. Includes machines of types and sizes to suit all requirements of hospitals, clinics and individual doctors and anesthetists.

Form No. 1390 Beckman Oxygen Analyzer. A catalog sheet on the Model "D" analyzer, a precision instrument used for determining oxygen concentration.

Form No. 1575 Humidity Record Chart. A chart for use at patient's bedside provides a simple method of ascertaining humidity. On reverse side is printed a relative humidity table.

Form No. 1667 Scanlan-Morris Sterilizers. A 52-page illustrated catalog describing the complete line of Scanlan-Morris sterilizers.

Form No. 1669 Scanlan-Morris Operay Surgical Lights. A 32-page illustrated catalog showing the various types of Operay Multibeam and Operay Surg-O-Ray lights, in both standard and explosion-proof models.

Form No. 1671 Scanlan-Morris General Examining and Operating Table. A catalog sheet illustrating the A-45 table designed to provide horizontal Trendelenburg, reverse Trendelenburg, cystoscopic, chair and gynecic positions.

Form No. 1672 Scanlan-Morris Obstetric and Operating Table. A catalog sheet illustrating the A-1150 table which gives all of the practical positions necessary for delivery and post delivery operative repairwork.

Form No. 1673 Ohio-Scanlan Urological X-Ray Table. A 4-page catalog illustrating the Braasch-Bumpus A-32 table for radiography, cystoscopy and general examination in the genito-urinary field.

Form No. 1674 Ohio-Scanlan Major Operating Table. A 4-page catalog illustrating the A-6000 table in various positions which are all easily secured with the "Selectrol" positioner.

Form No. 1737 Ohio-Scanlan General Operating Table. A 4-page catalog illustrating the A-2003B table with which all surgical positions including Trendelenburg, Mayo Kidney, and chair positions are secured.

Form No. 2016 Formula Room Techniques. A 30-page illustrated catalog of recently published articles on formulas preparation reprinted from hospital journals.

Form No. 2024 Hawley-Scanlan Fracture X-Ray and Orthopedic Table. A 4-page catalog. This table permits the use of the X-Ray and the fluoroscope in the reduction and treatment of fractures without the necessity of moving patient back and forth from an X-Ray table to an orthopedic table.

Form No. 2030 Stille Instrument List. A 4-page catalog illustrating the finest in surgical instruments.

Form No. 2031 Scanlan-Morris Autopsy Table. A catalog sheet illustrating the A-29 pedestal type autopsy table.

Form No. 2036 King Catheters. A 4-page price catalog illustrating intratracheal catheters and accessories with prices.

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MORE than half a century of dependable service and progressive development have earned for Ohio Medical Gases a reputation as the "Anesthetic of Choice" in inhalation anesthesia. And in therapy and resuscitation, too, the "Ohio" label is your assurance of highest quality.

● **OHIO ANESTHETIC AND THERAPEUTIC GASES**

— of constantly high and uniform quality are the product of exhaustive research and exacting specialization. Ohio cylinders are completely cleaned and reconditioned both inside and out before new gases are compressed into them. All cylinder valves are rigidly inspected and serviced prior to refilling and after filling are sealed for protection against the intrusion of dust or grease in the valve orifice and to insure quick distinction between full and empty cylinders.

● **SAFETY NYLON VALVE SEAT** — All Ohio cylinder valve seats are now fabricated from a specific formulation of nylon developed after intensive research. This superior material not only provides amazing sealing characteristics but exhibits a much higher resistance to ignition than commonly used valve seat materials. Ohio cylinder valves are kept abreast with modern technological advances in design and

materials to assure safer, more dependable, cylinder valve operation.

● **SELF-SEAL TEFLON WASHERS** — A remarkable new plastic seal, the Teflon washer, is used as a packing gland gasket on all small Ohio cylinder valves. Teflon is a tough, resilient, abrasion-resistant, non-adhesive plastic. It is admirably suited for use as a valve packing material on Medical Gas cylinders because of its unique cold flow properties which give "self-sealing" protection against the leakage of gases past the valve stems. Teflon washers contribute to the smooth, trouble-free action of Ohio cylinder valves.

● **"CYLINDERS FROM OHIO"** — as an integral part of your anesthetic and therapeutic equipment will give added assurance and peace of mind to your medical, surgical and anesthetic staff. Ohio delivery service of gases is quick and sure from all principal cities throughout the nation.

# Announcing!

## SCANLAN-MORRIS

Now you can get both pressure and boiling-type Scanlan-Morris sterilizers made of Monel.

The great strength and high corrosion resistance of this solid, high-nickel alloy has now been added to the efficient, economical features of Scanlan-Morris design and construction.

Lengthy service in hospitals has proved that Monel makes the longest-lasting sterilizers. Just where Monel is being used in Scanlan-Morris pressure sterilizers to provide fast, thorough sterilization throughout a long, trouble-free service life is illustrated below....

### Solid Monel INNER SHELL

The rustproof, highly corrosion-resistant Monel inner shells of Scanlan-Morris sterilizers just can't stain surgical dressings and gowns . . . and spilled saline or other hospital solutions won't harm them. Monel is a solid metal with no coating to wear away. It is always easy to keep clean.

### Strong, Tireless Monel STEAM JACKET

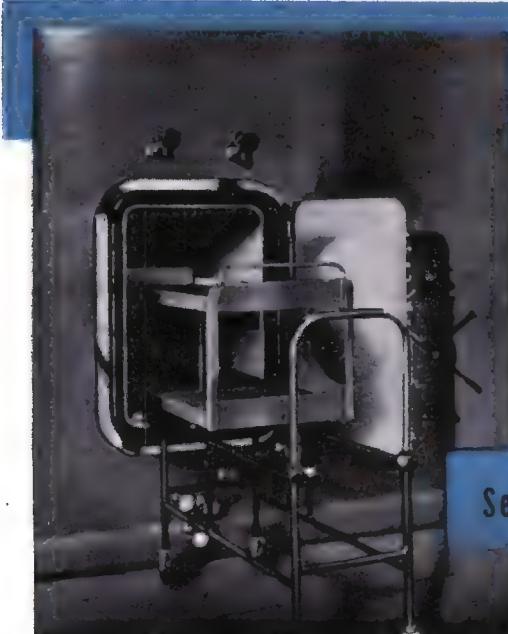
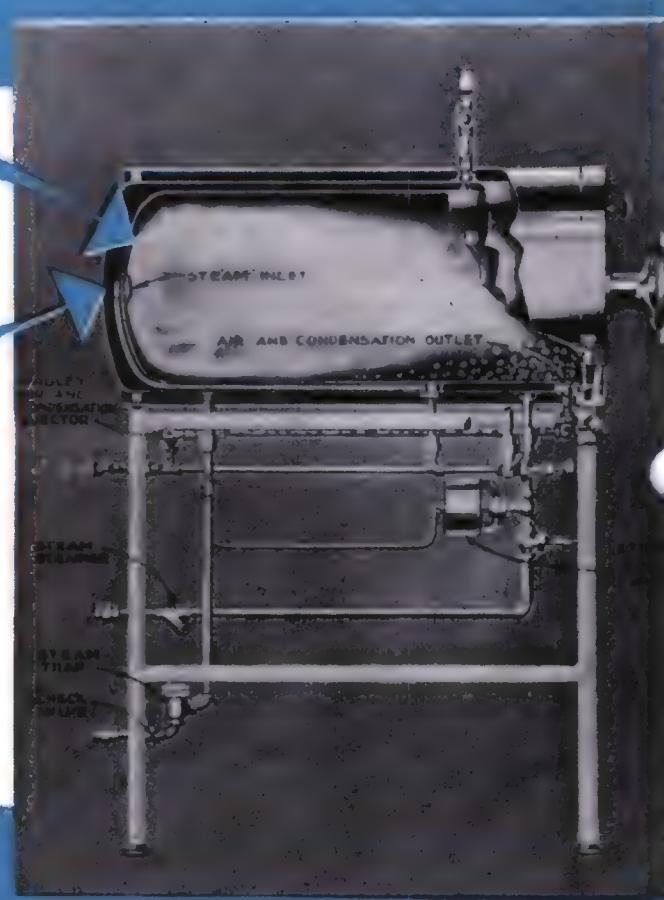
Sterilizers and disinfectors must be capable of 24-hour duty, because a busy operating room can't be let down. That's why the steam jackets of Scanlan-Morris pressure sterilizers are made of Monel. Monel can take the constant expansion and contraction that sharply changing temperatures in a busy sterilizer impose without developing leaks and fractures caused by fatigue.

### Hard, Tough Monel TRAYS and RACKS

Even the heaviest loads of bulky-sharp-edged surgical instruments can't gouge the gleaming, easy-to-clean surfaces of Monel trays and racks in Scanlan-Morris sterilizers.

# MONEL

## Pressure Sterilizers



### Bulk Sterilizers Have Nickel-Clad Steel Chambers and Doors

The Nickel-Clad Steel chambers and doors of Scanlan-Morris bulk sterilizers and disinfectors never require costly repainting or resurfacing. Surgical packs, bedding, formulas or utensils can all be processed with complete freedom from rust and discoloration. All trays, rack and carriages in these bulk sterilizers are made of Monel.

See Inside For Some of the Scanlan-Morris Sterilizers

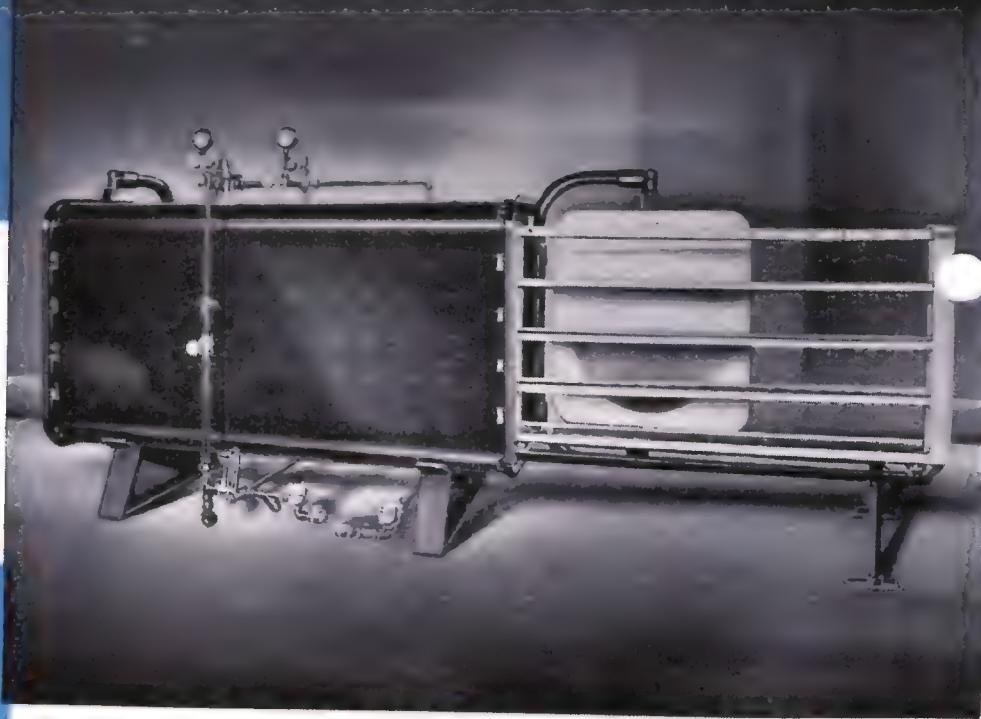
NOW  
AVAILABLE  
in Monel and  
Nickel-Clad  
Steel

# Scanlan-Morris Sterilizers

The Ohio Chemical & Mfg. Co.

1400 EAST WASHINGTON AVENUE

MADISON, WISCONSIN



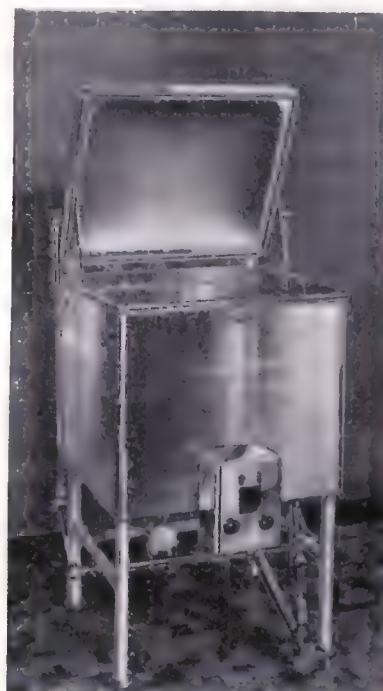
## Sturdy Nickel-Clad Steel Bulk Sterilizer

Packs will never come out discolored or contaminated by metal-corrosion from this Scanlan-Morris bulk sterilizer. Nor will its interior ever need re-painting or re-surfacing. Chamber and door are clad with pure nickel, presenting a hard, durable, corrosion-resistant surface.



## Cylindrical Pressure Sterilizer

The useful life of this sterilizer will not be shortened by the combined effects of stress and corrosion. Its inner shell and steam jacket are made of fatigue and corrosion-resistant Monel. A factor in the longevity of this sterilizer is the low thermal expansion of Monel.



## Non-Pressure Instrument and Utensil Sterilizers

These Scanlan-Morris sterilizers are adaptable to any and all conditions for The Ohio Chemical & Mfg. Co. will furnish models for heating by direct steam, gas, electricity or even kerosene. To make these sterilizers resistant to abrasion and corrosion, they specify Monel construction throughout. Even the sturdy, attractive lid is pressed from sheet Monel.

SCANLAN-MORRIS

EXPLOSION-PROOF

*Operay*

MULTIBEAM LIGHT

EXPLOSION-  
PROOF  
CEILING  
LIGHTS

EXPLOSION-  
PROOF  
HANGER  
ASSEMBLY

EXPLOSION-  
PROOF  
PROJECTOR  
*and*  
LENSES

The Ultimate In Safe  
Flexible Surgical Lighting

Every hospital and surgeon assumes the ethical and moral aside from the legal responsibility for protecting patients and personnel against the hazards of operating room explosions. The highly efficient and maneuverable Operay Multibeam Surgical Light can provide this priceless protection with its completely explosion-proof construction. It meets the standards of the Underwriters Laboratories for use in Class I, Group C Hazardous Locations, such as operating rooms in which explosive anesthetic gases are used.



Easily Moved  
To Any Position  
With Complete Safety

The Explosion-Proof Operay Multibeam Light can be raised or lowered to any level, tilted at any angle, moved back and forth to any position with complete confidence in its safety against explosion. This explosion-proof protection is combined with Operay's exceptional flexibility and the glare-free, shadow-free Multibeam illumination for the ideal in modern surgical lighting.

THE *Ohio Chemical* & MFG. CO.

# SCANLAN-MORRIS

# UNMATCHED MULTIBEAM FLEXIBILITY



Both Standard and Models Give the Light He Needs

#### REFLECTED AND REFRACTED LIGHT

Operay's powerful compound beam of light thus bypassing the hands, heads and shoulders illuminate the operating field free of shadow as close as 7 inches above the incision from entering.

#### GLARE FREE

The Operay optical system concentrates its light where the surgeon wants them. The intensity is scientifically calculated to provide the surgeon a decrease in eye fatigue when working und appreciable.

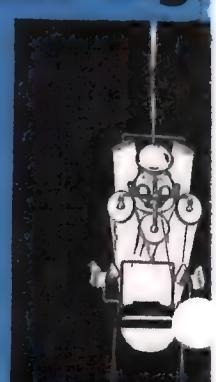
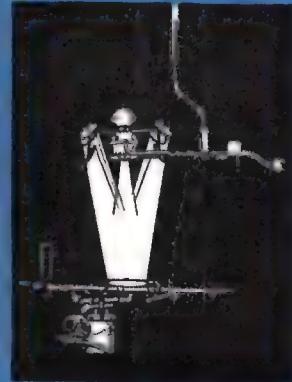
#### PENETRATES DEEPEST CAVITIES

Just as the Multibeam light rays bypass obstacles they light the sides and depths of deepest illumination for the most difficult operations.

#### AMAZINGLY MANEUVERABLE

The Operay Multibeam Light is as maneuverable as the jector assembly, itself, can be tilted backward and forward at the most effective angle. It can be tilted horizontally. The swivel-offset hanger allows the light fixture to be moved from one side of the operating table to the other. The ease with which the Operay Multibeam Light cannot be matched.

## Operay Multibeam Provides Even, Glareless Light



Very slightly angled beam for

Direct, vertical beam for chest

Slightly angled beam for chest

Internal beam for deep internal

Angled beam for

# Explosion-Proof Surgeon the Where He Wants It!

HT

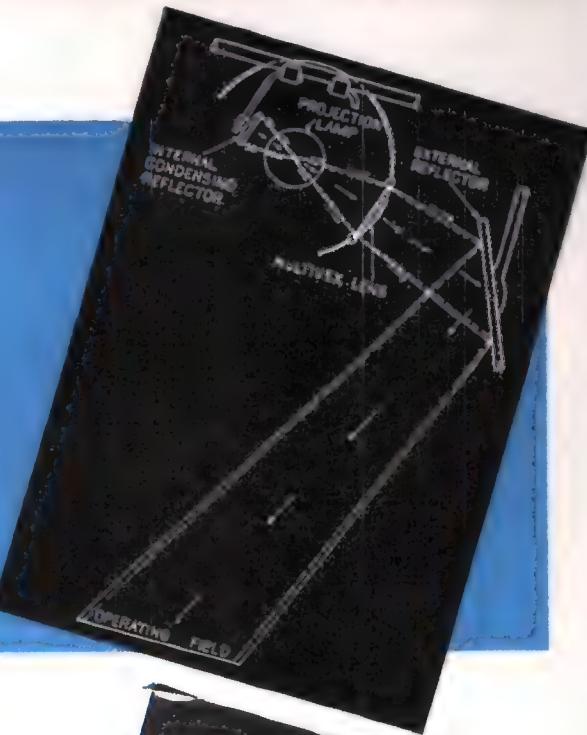
ht converges from many different angles, leaders of the surgeon and his assistants to dows, rings or "hot spots." The surgeon can without seriously blocking the light rays

rays for soft, glareless, white light exactly sity and area of illumination have been geon with ideal working conditions. The er Operay's optimum illumination is ap-

stacles to give shadow-free illumination, surgical cavities from every angle. Proper ns is easily obtainable with an Operay Mul-

verable as a handheld flashlight. The pro-ard, forward, or rotated sideways to direct be raised and lowered by means of the horws the light to be moved from one end of e, speed and degree of maneuverability of utched!

Six internal condens-ing mirrors project light beams through six Multivex lenses to external Evalast mirrорs which direct the rays from diverse angles to the area of incision. A seventh lens provides direct vertical illumination.



The complete Multi-beam assembly can easily be raised, low-ered, tilted or rotated, using the control han-dle outside the sterile area without disturbing the table or pa-tient.



## From Any Position — Any Angle



Projector may be raised to ac-



Slightly angled beam for ob-



Direct vertical beam for

As illustrated at the left, the Standard Operay Light can readily provide even, shadow-free lighting in any plane without being lowered below safety levels set for non-explosive light fixtures. For the utmost in protection and flexibility, however, the Explosion-Proof Operay Multibeam Light is recommended.

# SCANLAN-MORRIS

**EXPLORATION-PROOF  
Operay  
MULTIBEAM LIGHT**

# SPECIFICATIONS

**Explosion-Proof Ceiling Lights** — Two explosion-proof 150-watt lamps in explosion-proof housings can be provided for general room illumination.

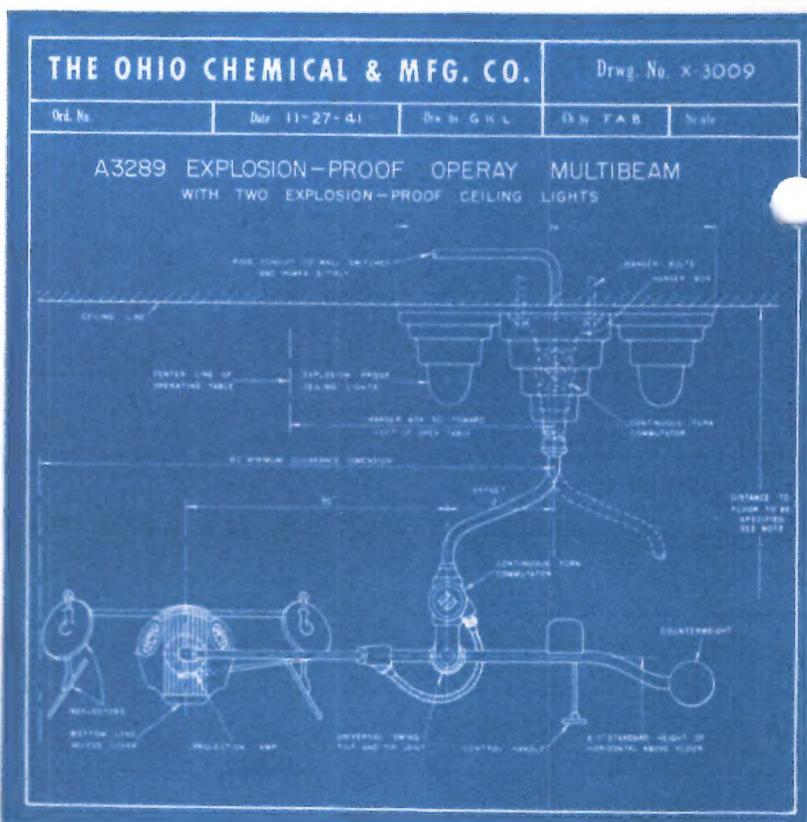
**Explosion-Proof Hanger Assembly** — Two commutators for the continuous-turn swivel-offset hanger and all electrical connections are protected by explosion-proof housings.

**Explosion-Proof Projector and Lenses** — The projector of heavy cast aluminum alloy is reinforced to withstand an internal explosion many times greater than any possible with the most highly inflammable gases. The seven lenses and projection lamp are also approved by Underwriters Laboratories.

**Internal and external reflectors are guaranteed for unlimited service against clouding or crazing from caustic fumes.**

Operay Multivex lenses are specially cast of white pyrex with radial fluting for even, high-intensity light transmission and non-critical focusing.

The diagram at the right gives general dimensions of the Explosion-Proof Operay Multibeam Light. Diagrams showing recommended installations of Scanlan-Morris Operay Lights to fit specific requirements will be supplied upon submission of floor plans.



# THE Ohio Chemical & MFG. CO.

BRANCH OFFICES IN PRINCIPAL CITIES

1400 East Washington Avenue, Madison 10, Wisconsin • Represented on the West Coast by Ohio Chemical Pacific Company, San Francisco, Los Angeles, Portland and Seattle • In Canada by Ohio Chemical of Canada, Ltd., Toronto and Montreal • Internationally by Airco Corporation International, 33 W. 42nd St., New York



# UNIFORM IN QUALITY AND PURITY . . . ALWAYS AVAILABLE

	$\text{CO}_2$	$\text{CO}_2\text{O}_2$	$\text{CH}_2\text{CH}_2\text{CH}_3$	$\text{C}_2\text{H}_6$	$\text{He}$	$\text{HeO}_2$	$\text{N}_2\text{O}$	$\text{O}_2$
Physical Properties	Carbon Dioxid	Carbon Dioxid Oxygen Mix	Cyclo-propane	Ethylene	Helium	Helium-Oxygen Mixtures	Nitrous Oxid	Oxygen
Molecular Weight	44.01		42.08	28.05	4.00		44.02	32.00
Physical State in Cylinder	Liquid	Gas	Liquid	Gas	Gas	Gas	Liquid	Gas
Spec. Grav. of Gas (Air=1)	1.529		1.481	0.974	0.138		1.531	1.105
Approx. Press. @ 70° F	800	1650-2050	75	1250	1650	1650	800	1650-2200
Critical Temperature °C	31.34		124.65	9.51	-267.95		35.4	-118.84
Critical Temperature °F	88.41		256.4	49.1	-450.3		95.7	-181.9
Critical Press. # psi gauge	1056.93		782.0	729.65	18.37		1087.5	715.84
Boiling Point °C	Sublimes @ -78.4		-32.9	-103.7	-268.9		-88.57	-182.97
Flammability Limits in Air			Low 2.40%	Low 3.05%				
Flammability Limits in $\text{O}_2$			High 10.3%	High 28.6%				
O/I Water Solubility @ 37°C			Low 2.48%	Low 2.90%				
			Figh 60.0%	Figh 79.9%				
			34.4	14.4	1.7		3.2	
<b>CYLINDER FILLINGS</b>		***				***		
Cylinder Style A	12.5 ounces 50 Gals.	20 Gals.	AA * 9.25 oz. 40 Gals. BB *	6.25 ounces 40 Gals.	0.33 oz. 15 Gals.	15 Gals.	12.5 oz. 50 Gals.	3.75 oz. 20 Gals.
Cylinder Style B	1 lb. 9 oz. 100 Gals.	40 Gals.	1 lb. 7.25 oz. 100 Gals.	15.75 oz. 100 Gals.	0.63 oz. 28 Gals.	29 Gals.	1 lb. 9 oz. 100 Gals.	7.25 oz. 40 Gals.
Cylinder Style D	3lbs. 14.5oz. 250 Gals.	95 Gals.	3lbs. 5.25oz. 230 Gals.	1lb. 15.5oz. 200 Gals.	1.8 oz. 80 Gals.	82 Gals.	3 lbs. 14.5oz. 250 Gals.	1 lb. 1 oz. 95 Gals.
Cylinder Style E	6 lbs. 9 oz. 420 Gals.	165 Gals.		3 lbs. 4 oz. 330 Gals.	2.9 oz. 131 Gals.	134 Gals.	6 lbs. 9 oz. 420 Gals.	1 lb. 13.25oz. 165 Gals.
Cylinder Style F	20 lbs. 1280 Gals.	550 Gals.		10 lbs. 12 oz. 1100 Gals.	9.4 oz. 425 Gals.	435 Gals.	20 lbs. 1280 Gals.	6 lbs. 2 oz. 550 Gals.
Cylinder Style M	31.25 Lbs. 2000 Gals.	800 Gals.		15 lbs 14 oz. 1600 Gals.	13.75 oz. 605 Gals.	620 Gals.	31.25 Lbs. 2000 Gals.	8 lbs. 14 oz. 800 Gals.
Cylinder Style G	50 lbs. 3200 Gals.	1400 Gals.		27 lbs. 8 oz. 2800 Gals.	1 lb. 8 oz. 1100 Gals.	1126 Gals.	50 lbs. 3200 Gals.	15 lbs. 8.5 oz. 1400 Gals.
Cylinder Style H								20 lbs. 4 oz. 1825 Gals.

\*AA and BB are lightweight cylinders especially designed for use in cyclopropane service.

\*\*See illustrations of comparative cylinder sizes on next page.

\*\*\*Weight depends on actual mixture.

## \*\*CYLINDER WEIGHTS AND MEASURES

Cylinder Style	A	AA	B	BB	D	E	F	M	G	H
Approx. Cylinder Dimens. with valve	3" x 10"	2 3/4" x 10"	3 1/4" x 16"	2 3/4" x 19"	4 1/4" x 20"	4 1/4" x 29"	5 1/2" x 55"	7 1/8" x 46"	8 1/2" x 55"	9" x 55"
Approx. weight of empty Cyl. with valve	2 3/4 lbs.	2 1/2 lbs.	8 lbs.	4 1/2 lbs.	14 Lbs.	21 lbs.	70 lbs.	70 lbs.	110 lbs.	130 lbs.

## NATION-WIDE DELIVERY Service AVAILABLE THROUGH THESE OHIO CHEMICAL OFFICES

ALABAMA — BIRMINGHAM 5  
2625 S. Seventh Ave.  
D. C. — WASHINGTON 2  
2002 Fenwick Street, N. E.  
FLORIDA — JACKSONVILLE 3  
Strickland and McDuff Sts.  
GEORGIA — ATLANTA 2  
180 Williams St. N. W.  
ILLINOIS — CHICAGO 12  
221 So. Leavitt St.  
KENTUCKY — LOUISVILLE 4  
1258 Logan St.  
LOUISIANA — NEW ORLEANS 16  
227 No. Peters St.  
MASSACHUSETTS — CAMBRIDGE 39  
84 Hamilton Street  
MICHIGAN — DETROIT 26  
517 West Larned St.  
MINNESOTA — MINNEAPOLIS 7  
2859-20th Ave., So.  
MISSOURI — KANSAS CITY 8  
517 East 18th Street  
MISSOURI — ST. LOUIS 8  
4114 Olive Street  
NEW YORK — BUFFALO 6  
47 Stanton Street  
NEW YORK — NEW YORK 10  
155 East 23rd Street  
NEW YORK — ROCHESTER 4  
200 St. Paul Street  
OHIO — CINCINNATI 3  
934 Kenyon Ave.

4-2000  
Lincoln 3-9300  
7-8431  
LAmar 8091  
SEEley 3-7732  
Magnolia 8793  
RAymond 2000  
KIrkland 7-4734  
Woodward 2-9214  
DUPont 1114  
VIctor 3443  
FRanklin 1010  
WAshington 6010  
ALgonquin 4-8220  
Locust 3884  
PArkway 1812

OHIO — CLEVELAND 14  
1177 Marquette St., N. E.  
PENNSYLVANIA — PITTSBURGH 12  
1116 Ridge Ave., N. S.  
PENNSYLVANIA — PHILADELPHIA 4  
3623-25 Brandywine Street  
TENNESSEE — MEMPHIS 3  
237 E. Court Ave.  
TEXAS — DALLAS 1  
2904 Live Oak Street  
TEXAS — HOUSTON 6  
2323 Milam Street

ON THE WEST COAST  
OHIO CHEMICAL PACIFIC COMPANY

CALIFORNIA — LOS ANGELES 11  
4848 Long Beach Ave.  
CALIFORNIA — SAN FRANCISCO 3  
1379 Folsom Street  
OREGON — PORTLAND 9  
416 N. W. 10th Street  
WASHINGTON — SEATTLE 1  
1115 Pine Street

IN CANADA, OHIO CHEMICAL CANADA, LTD.

ONTARIO — TORONTO 2  
180 Duke Street  
QUEBEC — MONTREAL  
2535 St. James St., W.

HEnderson 4000  
FAirfax 7150  
BAring 2-1100  
8-7150  
Taylor 9141  
KE-1232

ADams 1-9373  
MArket 1-4226  
BE 4626  
SEneca 5366  
ELgin 2471  
WEllington 2728

## MISCELLANEOUS INFORMATION ON CYLINDERS, CRATES AND CONTENTS

The crate weights listed below, when added to the empty cylinder weights, will give the approximate shipping weights on returns. Approximate weights when full can be determined by referring to the preceding page.

### CRATE WEIGHTS

6 B - 12 lbs.	3 D - 12 lbs.	*2 E - 11 lbs.
12 B - 19 lbs.	*4 D - 14 lbs.	3 E - 14 lbs.
1 D - 6 lbs.	*6 D - 18 lbs.	*4 E - 19 lbs.
2 D - 9 lbs.	*8 D - 20 lbs.	*6 E - 20 lbs.
	*1 E - 7 lbs.	

\* These crates are the commonly employed sizes.

The following crates, containing either empty or full cylinders, constitute a shipment considered in excess of 100 lbs., upon which the Company pays freight charges, unless otherwise indicated.

12 B

6 D

4 E

8 D

6 E

### CONVERSIONS

To ascertain the approximate number of liters remaining in oxygen cylinders multiply the pounds pressure, as shown on the gauge, by the number following the size cylinder as shown below.

H cylinder 3.1  
G cylinder 2.66

E cylinder 0.3  
D cylinder 0.16

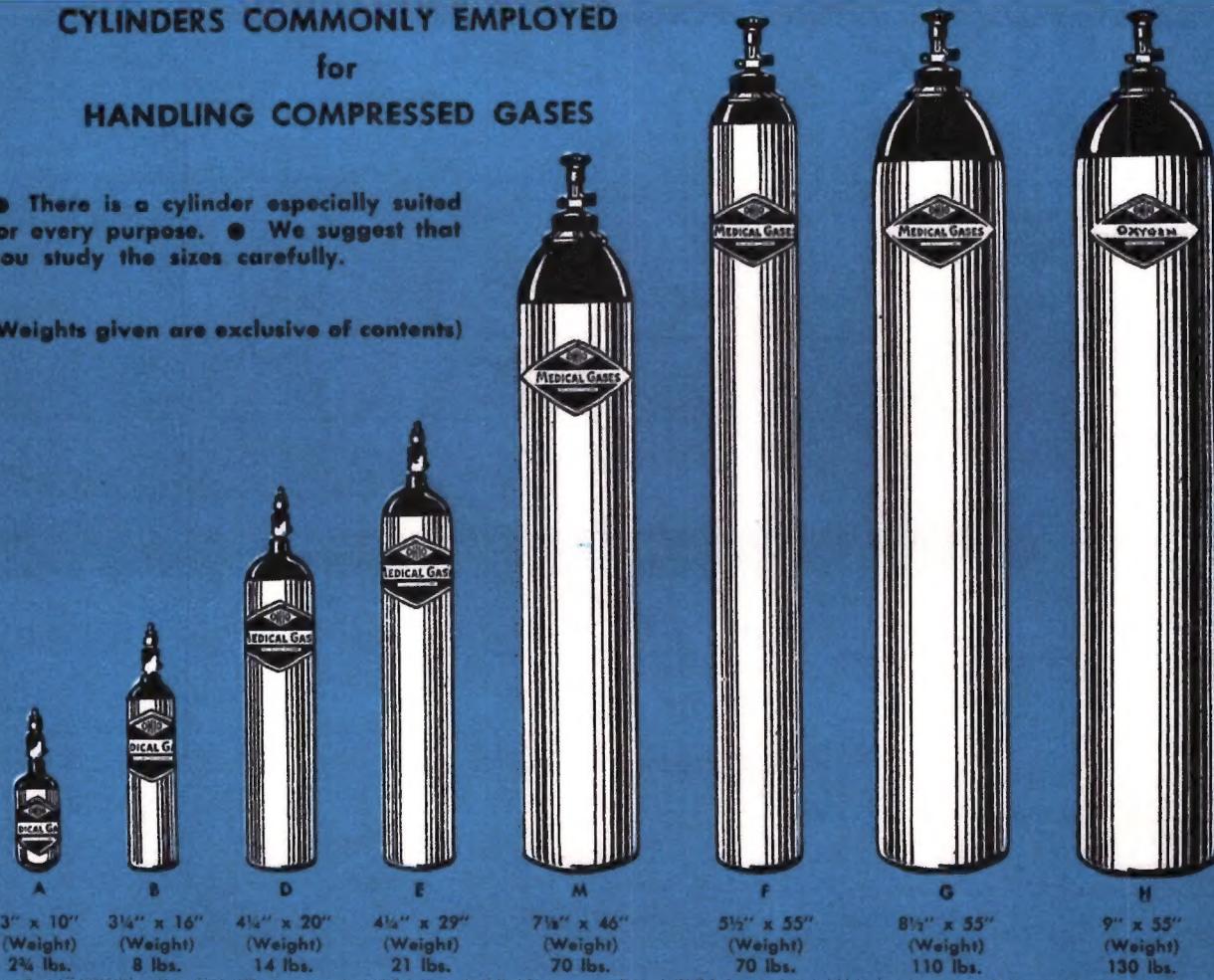
### EQUIVALENTS

1 Cubic Foot — 7.48 gallons — 28.3 liters  
1 Gallon — 3.785 liters — 0.134 cubic feet  
1 Liter — 0.264 gallons — 0.035 cubic feet

### CYLINDERS COMMONLY EMPLOYED for HANDLING COMPRESSED GASES

• There is a cylinder especially suited for every purpose. • We suggest that you study the sizes carefully.

(Weights given are exclusive of contents)

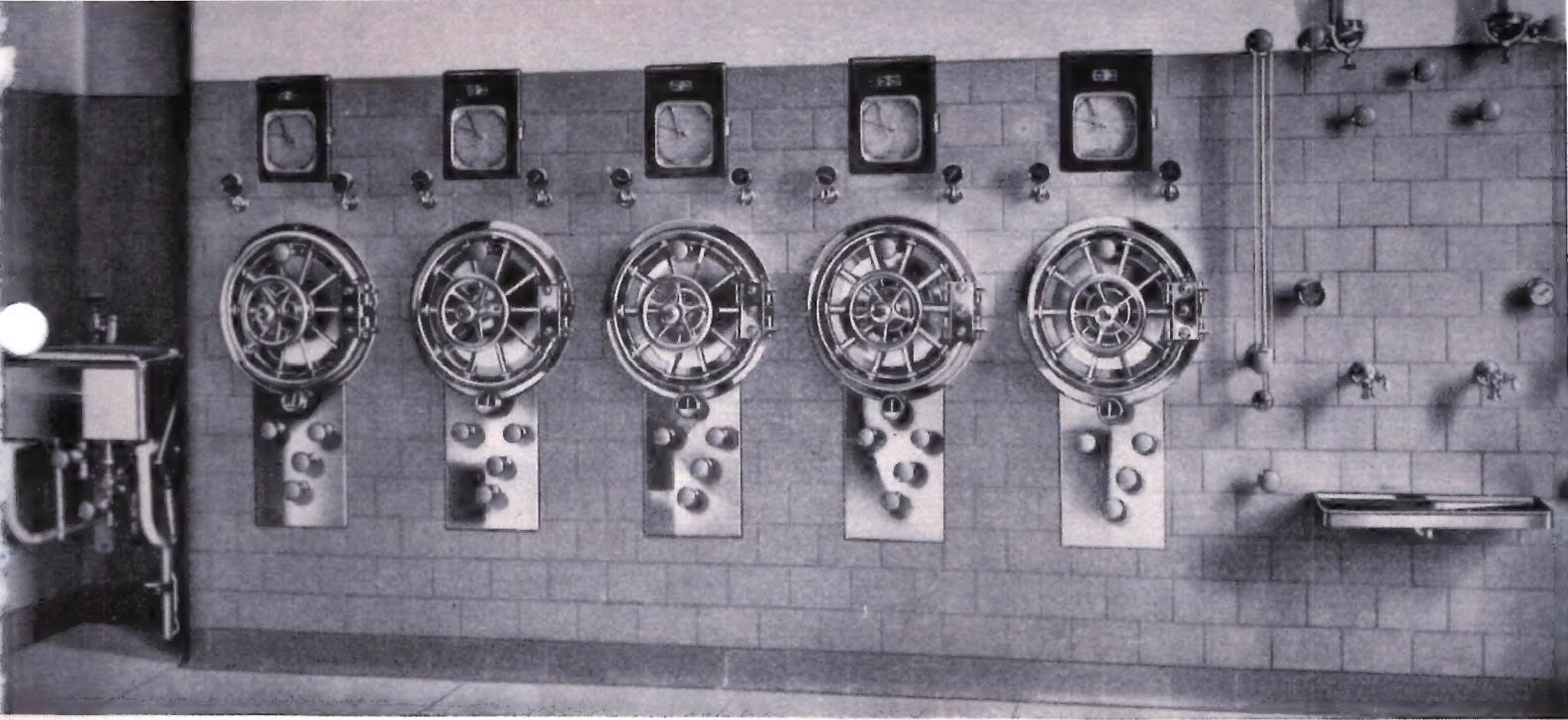


**THE OHIO CHEMICAL & MFG. CO., 1400 E. WASHINGTON AVE., MADISON 10, WIS.**

"Ohio" Medical Gases  
Lights, Operating Tables, Sutures

• "Heidbrink" Anesthetic, Therapeutic and Resuscitative Apparatus  
• "Scanlan-Morris" Bedpan Washers

• "Scanlan-Morris" Sterilizers,  
"SterilBrite" Furniture  
• "Stille" Instruments



### Recessing Aids Cleanliness

When a recessed installation is desired as in this Scanlan-Morris equipped sterilizer room—Monel assures greater freedom from costly repairs because it is corrosion-resistant throughout, rustless, strong and tough.



### Triple Purpose Autoclave

You may order this Scanlan-Morris autoclave equipped either with shelves for laboratory work—or with racks for formulae—or with "slide-away" trays for instruments. With this adaptability, you also get the protection against corrosion and abrasion provided by its Monel inner shell and steam jacket. Monel is unaffected by trisodium phosphate solutions or other commonly used detergents found useful in cleaning septic instruments.



### Long-Lasting Water Sterilizer Battery Providing Convenient Source for Both Sterile Hot and Cold Water

Hospital directors in localities where raw water causes selective corrosion will be glad to know that these sterilizers have tanks of Monel—the metal that will not de-zincify. Furthermore, sterile water, can be stored in these tanks without danger of rust, because Monel is immune to rust. This immunity to de-zincification and rust is not confined to the surface of Monel. It extends all the way through. That is why Monel needs no re-painting, re-coating or other expensive periodic maintenance.

